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What Happens if You Try to Run Current Farm Programs on a Tighter Budget?

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Congress gave the committees writing the 2002 Farm Bill permission to increase farm program spending by billions of dollars per year. The committees writing the next farm bill are unlikely to have the same luxury.

Since the beginning of the 2002 Farm Bill debate, the federal budget has gone from surplus to deficit. In early 2006, Congress passed a deficit reduction bill that reduced estimated U.S. Department of Agriculture spending by $2.7 billion over the next five years. Unless the budget picture significantly improves, Congress could face pressure to make further cuts in spending on farm and other programs.

Trade agreements are also a factor in writing future farm legislation. Under existing World Trade Organization (WTO) rules, Brazil successfully challenged particular aspects of U.S. cotton programs. In the Doha Round of WTO negotiations, there was general agreement that certain types of producer support should face tighter limits. Those talks were suspended in 2006, in part because of a dispute over just how tight the limits on domestic support should be.

Current Farm Programs with Less Money

Budgetary and WTO considerations are certain to be important in the next farm bill debate, but it is too early to predict the precise shape of new legislation. Congress could examine a wide variety of options, including some radical departures from current programs. The one option Congress seems almost certain to consider is a simple extension of current farm programs, perhaps with minor changes required to address budgetary or WTO concerns.

What might such a "status quo minus" approach mean for U.S. agriculture? We examine three policy options to reduce government farm program spending:

1. a 22.2% reduction in direct payments (DPs),
2. a 47.1% reduction in countercyclical payments (CCPs), and
3. a 38.0% reduction in marketing loan benefits (MLBs—loan deficiency payments and marketing loan gains.

Assuming that changes are implemented effective with the crop harvested in 2008, we estimate that each of these options would reduce government farm program spending by a total of $5 billion over fiscal years 2008-2012.

Baselines and Analysis Approach

The point of comparison for the analysis is the 10-year stochastic baseline prepared by the Food and Agricultural Policy Research Institute (FAPRI) based on information available in January 2006 (FAPRI, 2006a). The stochastic baseline is a set of 500 possible outcomes for U.S. agricultural commodity markets. These outcomes share the common assumption that current farm policies remain in place, but make different assumptions about the weather and other factors affecting supply and demand.

DPs are fixed and total $5.3 billion per year. In contrast, CCPs and MLBs depend on market prices—the lower the market price, the greater the payments. Based on Farm Service Agency reports, FAPRI estimates that annual CCPs averaged $2.9 billion, and MLBs averaged $3.5 billion over the 2002-2005 period.

The stochastic baseline projects modest increases in prices for most major crops that reduce average spending on CCPs and MLBs. For example, average corn prices in the stochastic baseline rise from less than $2.00 per bushel in the 2005/06 marketing year to over $2.40 per bushel by 2010/11. Across the 500 baseline outcomes for the 2008-2012 crop years, baseline CCPs average $2.7 billion per

year, and MLBs average $2.5 billion per year. In many of the stochastic outcomes, prices are high enough that there are no MLBs or CCPs; in other outcomes, low prices result in very large payments.

Some suggest that rapid growth in production of ethanol is likely to result in strong growth in prices for corn and other commodities. A short-term baseline update, prepared in July 2006 (FAPRI 2006b), projected higher prices than in the stochastic baseline used for this analysis. All else equal, higher average market prices would reduce estimated CCPs and MLBs—and would suggest that larger proportional cuts would be required to achieve a certain level of budgetary savings relative to the baseline.

One way to achieve the assumed reductions in payments would be to make appropriate adjustments to target prices, loan rates, and direct payment rates. Instead, this analysis assumes that those measures remain unchanged at 2002 Farm Bill levels, but that USDA would be instructed to withhold a proportion of each payment otherwise due to producers. This approach could raise implementation issues ignored in the analysis. For example, producers could choose to forfeit on commodity loans if marketing loan benefits are insufficient to compensate producers for market prices below the loan rate.

Government Spending by Commodity

By design, each of the three options would reduce average government farm program spending by $5 billion over a five-year period (fiscal years 2008-2012). In each scenario, the proportional cut in a particular type of payment is the same across all commodities. As shown in Table 1, however, the impacts on government spending on each commodity differ greatly across the options.

Table 1. Impacts on government outlay.

	Cut Direct Payments	Cut Counter-Cyclical Payments	Cut Marketing Loan Benefits
	(billion dollars, 2008-2012 total)		
Corn	-2.00	-1.68	-1.24
Wheat	-1.08	-0.44	-0.11
Soybeans	-0.58	-0.36	-1.38
Upland cotton	-0.58	-1.92	-1.40
Rice	-0.40	-0.22	-0.37
All other	-0.36	-0.38	-0.52
Total outlays	-5.00	-5.00	-5.00

In the case of direct payments, the results are fairly simple. Corn accounts for approximately 40% of total direct payments in the baseline. Reducing direct payments has only very limited effects on market prices, countercyclical payments, and marketing loan benefits. Corn, therefore, accounts for about 40% of the overall estimated savings, or about $2 billion over the five-year period. Wheat cost savings exceed $1 billion over the same period, with soybeans, rice, cotton, and all the other program crops sharing the remaining $2 billion in cuts.

The picture is more complicated in the scenarios that cut countercyclical payments and marketing loan benefits. First, the baseline level of spending on each commodity is sensitive to market price projections. Second, changes in CCPs and MLBs have larger effects on commodity production and prices than changes in DPs. For example, if reduced MLBs result in acreage shifting out of cotton and into wheat, the resulting changes in prices will affect MLBs and CCPs for both commodities.

The three scenarios have very different impacts on spending for particular commodities. Consistent with differences in baseline spending, wheat outlays are far more sensitive to proportional cuts in DPs than to the corresponding reductions in CCPs and MLBs. Cotton spending is particularly affected by cuts in CCPs, and soybean spending is most affected by changes in MLBs. For both corn and rice, proportional cuts in DPs have slightly larger average impacts than proportional cuts in other payments.

Producer Returns

Reducing government payments reduces estimated per-acre returns (Table 2). For corn, a 22.2% reduction in DPs would reduce annual government payments per base acre of corn by more than $5. Changes in direct payments have only minimal effects on corn production and prices, so the market value of corn production, CCPs, and MLBs are all largely unaffected. For a producer with one acre of corn base for every acre of corn harvested, annual per-acre income would be reduced by a little over $5 per acre.

Limiting CCPs and MLBs would have no effect on payments if prices are high, but could have very large impacts if prices are low. If CCPs are

Table 2. Impacts on producer returns.

	Cut Direct Payments	Cut Counter-cyclical Payments	Cut Marketing Loan Benefits
	(dollars/acre, 2008-2012 average)		
Corn			
Market value	0.18	0.39	0.17
Payments	-5.49	-5.05	-3.59
Sum	-5.31	-4.66	-3.41
Soybeans			
Market value	0.15	0.01	0.42
Payments	-2.63	-1.96	-4.74
Sum	-2.48	-1.95	-4.32
Wheat			
Market value	0.13	0.14	-0.12
Payments	-3.42	-1.35	-0.46
Sum	-3.29	-1.22	-0.58
Upland cotton			
Market value	0.07	1.78	3.80
Payments	-7.65	-30.29	-20.61
Sum	-7.58	-28.51	-16.81

Notes: Market value and loan benefits are reported per harvested acre. Direct and countercyclical payments are reported per base acre. Total payments and the sum of payments and market value are reported per harvested base acre. For individual producers and the country as a whole, base area and harvested area differ significantly.

reduced by 47.1%, annual corn CCPs are reduced by approximately $5 per corn base acre, averaging across the 500 stochastic outcomes. The reduction in CCPs would cause a slight reduction in corn production and increase in corn prices, and these changes would result in a very slight increase in the value of corn production and an even smaller reduction in loan program benefits. The net effect of these changes is to leave average corn producer returns down relative to the baseline by slightly under $5 per harvested base acre.

Reducing MLBs by 38.0% reduces corn MLBs and has modest effects on the market value of corn production and CCPs. Overall, corn producer returns decline relative to the baseline by a little over $3 per harvested base acre. Note that these producer return estimates for corn are consistent with the estimates of government spending—reducing DPs has the largest effect on corn producers, followed closely by reductions in CCPs, with reductions in MLBs having the smallest effects.

The patterns for other crops are also consistent with the government expenditure results. For soybeans, restrictions on MLBs have the largest net effects on producer income, while limitations on DPs are of greatest importance to wheat producer income, and reductions in CCPs have the largest impacts on cotton producer income. In all cases, changes in the market value of production are small relative to the changes in government payments.

An important note of caution is in order: for sake of simplicity, the reported calculations of per-acre returns assume producers have one base acre of the commodity in question for every acre they harvest. This is not the norm. For the country as a whole, base acreage for wheat, corn, and upland cotton exceeds harvested area, while the reverse is true for soybeans. On particular farms, there may be little or no correlation between the current crop mix and the base acreage used to determine DPs and CCPs.

Market Impacts

Reducing government payments has important impacts on producer income, but has only modest impacts on crop production and prices (Table 3). Market effects are especially small when DPs are reduced. DPs do not require production of any particular crop, or even of any crop at all, and the payments are unaffected by changes in market prices. One minor restriction is that DPs are not available if base acreage is used to produce fruits, vegetables, or dry beans. Economists differ in their estimates of just how much such largely "decoupled" payments affect production choices, but most would agree that any production effects of such payments are likely to be smaller, on a dollar-for-dollar basis, than effects of payments that are more closely tied to production or prices.

Reducing CCPs has only slightly larger impacts on production and prices. Like DPs, CCPs are not tied to production of particular crops or even of any crop at all. However, CCPs are affected by changes in mar-

ket prices—within certain ranges, lower season-average prices translate into larger CCPs. As a result, CCPs may play a price insurance role not played by DPs, and thus might be expected to have slightly larger impacts on production. Only in the case of cotton (the crop most dependent on CCPs) does estimated acreage change as much as 1% when CCPs are reduced by 47.1%.

MLBs, in contrast, are only available on actual production. Because producers have to harvest the crop to get MLBs, it seems reasonable to expect that changes in MLBs would have larger impacts on crop production patterns than changes in DPs or CCPs. When MLBs are reduced, estimated acreage declines for crops most dependent on MLBs in the baseline—cotton and soybeans—but actually increases slightly for wheat, the major crop least dependent on MLBs in the baseline. Note that even though cotton producers are more dependent on CCPs than MLBs, estimated effects of reductions in MLBs on cotton acreage are larger than the estimated effects of reductions in CCPs.

Even in the case of reduced MLBs, the main effect of reduced payments is to encourage producers to shift production from one crop to another, rather than to reduce the overall amount of land used for crop production. Total acreage devoted to production of 12 major crops only declines by a little over 0.1% when MLBs are reduced by 38.0%.

Net Farm Income

Policy changes that reduce government spending by $5.0 billion over fiscal years 2008-2012 are estimated to reduce net farm income by $3.3 billion to $3.9 billion over calendar years 2008-2012 (Table 4).

Table 3. Impacts on acreage and prices.

	Cut Direct Payments	Cut Counter-Cyclical Payments (2008-2012 average)	Cut Marketing Loan Benefits
Corn			
Acreage	-0.01%	-0.07%	-0.02%
Prices	0.05%	0.11%	0.05%
Soybeans			
Acreage	-0.03%	0.04%	-0.08%
Prices	0.06%	0.00%	0.18%
Wheat			
Acreage	-0.13%	-0.10%	0.27%
Prices	0.08%	0.09%	-0.08%
Upland cotton			
Acreage	-0.04%	-1.00%	-2.18%
Prices	0.01%	0.38%	0.82%
12 crops*			
Acreage	-0.06%	-0.11%	-0.12%

*Corn, soybeans, wheat, upland cotton, rice, sorghum, barley, oats, sunflowers, peanuts, sugar beets, and sugarcane.

As discussed, the three options to reduce government spending have only small impacts on crop production and prices, so it should not be surprising that crop and livestock receipts are largely unaffected. What may be surprising is that the reported changes in government payments significantly exceed the $5 billion change in government outlays. This occurs primarily because of differences between the fiscal years used to measure farm program spending and the calendar years used to report net farm income. Payments made between October 1 and December 31, 2012 would affect net farm income for calendar years 2008-2012, but not farm program spending for fiscal years 2008-2012, a period which ends on September 30, 2012. This seemingly arcane point may be more important than it seems, as budgetary rules require Congress to stay within spending limits over a specified period of fiscal years, not calendar years.

Reductions in payments do not have a dollar-for-dollar effect on net farm income. Smaller government payments reduce the value to producers of rented farmland, so over time one would expect rental payments to nonoperator landlords to adjust. In other words, at least part of the impact of lower government payments is absorbed by landlords. Other production expenses also decline in response to lower payments.

Table 4. Impacts on net farm income.

	Cut Direct Payments	Cut Counter-Cyclical Payments	Cut Marketing Loan Benefits
	(billion dollars, 2008-2012 totals)		
Crop receipts	0.04	-0.06	-0.19
Livestock receipts	0.02	0.03	0.07
Gov't payments	-5.33	-5.68	-5.11
Sum of above	-5.27	-5.70	-5.24
Rental payments	-1.44	-1.42	-1.29
Other expenses	-0.36	-0.58	-0.90
Total expenses	-1.80	-2.00	-2.19
All other net income	-0.17	-0.16	-0.23
Net farm income	-3.64	-3.86	-3.27

WTO Considerations

WTO considerations could also have important impacts on the design of new farm legislation. In response to a WTO ruling on a case brought by Brazil, the United States has already eliminated a program subsidizing the use of U.S. cotton and modified its export credit program. Brazil has argued that further changes in other U.S. farm programs are also required by existing WTO rules.

Before negotiations for a new WTO agreement were suspended, the United States tabled a proposal in October 2005 that would place limits on certain types of producer support programs. The U.S. proposal would have reduced the allowed level of "amber box" support from $19.1 billion per year to $7.6 billion per year. Based on past U.S. reports to the WTO and discussions with U.S. officials, we assume that U.S. amber box support would include government spending on the marketing loan program for grains, oilseed, and cotton, as well as the imputed value to producers of the dairy and sugar price support programs (these values are set by a formula tied to current support prices and past world prices, and generally far exceed actual budgetary expenditures on the dairy and sugar programs).

Whether the United States would have to make changes in farm programs to comply with its proposed limits on amber support is a matter of contention. If market prices are high, marketing loan expenditures are low, and it is conceivable that total U.S. amber box support could fall below the proposed limit with no changes in current policies. However, low prices could translate into large marketing loan benefits that would cause measured levels of U.S. amber box support to balloon.

In 53% of the stochastic outcomes for 2012, the baseline level of U.S. amber box support would exceed the proposed $7.6 billion limit. Reducing DPs or CCPs would have only minimal impacts on this proportion. Reducing marketing loan benefits by 38%, however, would reduce the proportion of outcomes exceeding the U.S.-proposed limit to 37%. One reason the proportion does not decline even more sharply is that imputed support from the dairy and sugar programs makes up a very large share (approximately $6.4 billion) of the total, and the assumed policy changes would have no effect on that estimate.

The U.S. proposal would also redefine "blue box" support to include CCPs, and limit such support to $4.8 billion per year. In 11% of the baseline stochastic outcomes for 2012, CCPs would exceed this proposed limit. Reducing DPs or MLBs would have little or no impact on this proportion, but reducing CCPs by 47.1% would eliminate any possibility of exceeding the proposed cap on blue box support.

If the U.S. proposal were adopted, there could be pressure to place limits on MLBs and CCPs and to make changes in the sugar and dairy price support programs. One practical question could be how one goes about deciding what probability of exceeding support limits is acceptable? If policies would result in support exceeding proposed limits 37% (or 20% or 10% or 5%) of the time given normal variation in market prices, is that sufficient, or are further reductions in support levels necessary?

Other countries have sought deeper cuts in U.S. supports than in the October 2005 U.S. proposal. If the negotiations resume, there is likely to be continued pressure on the United States to put in place strict limits on producer support measures. MLBs and CCPs are especially likely to be under close scrutiny, and even in the case of DPs, some policy changes may be needed to ensure that payments qualify for the "green box" designation that would make them exempt from limits.

Other Scenarios

The discussion here has focused on simple modifications to current farm programs. The last two farm bills have made significant shifts in policy, and it is very possible that the next farm bill may also result in a change in direction.

WTO concerns may encourage at least some consideration of alternative policy directions. The variability in spending on marketing loan and CCP programs complicates efforts to stay within the types of limits on amber and blue box subsidies that have been proposed. Our results suggest, for example, that with a scaled-back version of current policies, the average level of support provided to producers would have to be well below the proposed limits in order to make sure that the limits are not exceeded when prices are lower than anticipated. Likewise, some might examine the sugar and dairy programs to see if there might be a way to provide a similar level of support to producers without such a large charge in terms of amber box support measures.

Purely domestic concerns could also encourage examination of other policy options. For example, some have suggested examining policies that make payments tied to producer revenue shortfalls rather than to market prices. Other groups important in the farm bill debate—ranging from environmental groups to biofuel advocates to budget hawks—are also likely to recommend other policy options. While many options will be considered, current programs are likely to serve as a benchmark, and budgetary and WTO concerns are likely to receive considerable attention in choosing among the alternatives.

For More Information

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